CURRICULUM VITAE

Paul R. Garabedian

Born:	August 2, 1927, Cincinnati, Ohio		

Education:	Brown University	BA	1946
	Harvard University	MA	1947
	Harvard University	PhD	1948

Positions:	National Research Council Fellow	1948-49
	Asst. Prof., Math., Univ. Calif.	1949-50
	Assistant Professor	1950-52
	Associate Professor	1952-56
	Professor, Mathematics, Stanford Univ.	1956-59
	Scientific Liaison Officer, ONR-London	1957-58
	Professor	1959-Present
	Director-Courant Mathematics & Computing Laboratory of US DOE	1972-78
	Director-Division of Computational Fluid Dynamics, Courant Institute of Mathematical Sciences, New York Univ.	1978-Present

Honors:	Sloan Foundation Fellowship, 1961-63
	Guggenheim Fellowship, 1966 and 1981-82
	Fairchild Distinguished Scholar, Cal.Tech., 1975
	NASA Public Service Group Achievement Award, 1976
	NASA Certificate of Recognition, 1980
	Boris Pregal Award, New York Academy of Sciences, 1980
	Birkhoff Prize, AMS and SIAM, 1983
	Theodore von Karman Prize, SIAM, 1989
	Natl. Acad. Sci. Award in Appl. Math. and Num. Anal., 1998

Memberships:	National Academy of Sciences
	American Academy of Arts & Sciences
	American Mathematical Society
	Fellow of the Society for Industrial and Applied Mathematics
	Fellow of the American Physical Society
	Editorial Board, International Journal of Computational Fluid Dynamics
	Editorial Board, International Journal of Computational and Applied Mathematics

Ph.D.'S GRANTED:

1974 Octavio Betancourt	1991 Kevin McGrattan
1984 Margaret Bledsoe	1976 Eldon McIntyre
1969 Eugene Bloch	1953 Edward McLeod
1983 Antoine Bourgeade	1987 Kam-Chuen Ng
1997 Connie Chen	1985 David Ross
1970 Neal Friedman	1965 George Ross
1969 Ellen Gottlieb Spielvogel	1956 Eugene Rodemich
1966 Clyde D. Hill	1978 Jose Sanz
1963 Jerry Kazdan	1955 Peter Shaw
1969 David Korn	1971 Arthur Snider
1995 Nelson Kuhl	1965 Eva Swenson
1982 Michael Marcal	1992 Mark Taylor
1979 Geoffrey McFadden	1956 Martin Vitousek
1964 R. Dowd	

POSTDOCTORAL SCIENTISTS SUPPORTED:

Frances Bauer	Mark Taylor
Franz Herrnegger	Antony Jameson
Margaret Bledsoe	Robert Krasny
I-Chung Chang	Kevin McGrattan
Henry Gardner	Masahiro Wakatani
David Korn	Octavio Betancourt

RESEARCH INTERESTS:

Three-dimensional computer codes for the study of equilibrium, stability and transport in plasma physics have been developed, and they are being applied to the design of a quasi-axially symmetric stellarator with good confinement properties. Methods of computational fluid dynamics are being refined that have played a significant role in the design and analysis of supercritical wing sections for modern aircraft. Work is in progress on a range of problems in partial differential equations and complex analysis that arise in applied mathematics.

PUBLICATIONS:

1. Identities in the Theory of Conformal Mapping, Trans. Amer. Math. Soc. 65, 187-238, 1949 (with M. Schiffer).

2. Schwarz's Lemma and the Szego Kernel Function, Trans. Amer. Math. Soc. 67, 1-35, 1949.

3. Distortion of Length in Conformal Mapping, Duke Math. J. 16, 439-459, 1949.

4. A Problem of Robinson, Bull. Amer. Math. Soc. 55, 917-922, 1949.

5. The Sharp Form of the Principle of Hyperbolic Measure, Ann. of Math. 51, 360-379, 1950.

6. On Existence Theorems of Potential Theory and Conformal Mapping, Ann. of Math. 52, 164-187, 1950 (with M. Schiffer).

7. A New Proof of the Riemann Mapping Theorem, Construction and Applications of Conformal Maps, Proc. of a Symposium, National Bureau of Standards, Appl. Math. Ser., No. 18, U. S. Government Printing Office, Washington, D. C., 207-213, 1952.

8. A Remark on the Moduli of Riemann Surfaces of Genus 2, Proc. Amer. Math. Soc. 1, 668-673, 1950.

9. The Classes L_p and Conformal Mapping, Trans. Amer. Math. Soc. 69, 392-415, 1950.

10. Asymptotic Identities Among Periods of Integrals of the First Kind, Amer. J. Math. 73, 107-121, 1951.

11. A Partial Differential Equation Arising in Conformal Mapping, Pacific J. Math. 1, 485-524, 1951.

12. A New Formalism for Functions of Several Complex Variables, J. Anal. Math. 1, 59-80, 1951.

13. A Green's Function in the Theory of Functions of Several Complex Variables, Ann. of Math. 55, 19-33, 1952.

14. Complex Boundary Value Problems, Trans. Amer. Math. Soc. 73, 223-242, 1952 (with D. Spencer).

15. A Complex Tensor Calculus for Kahler Manifolds, Acta Math. 89, 279-331, 1953 (with D. Spencer).

16. Orthogonal Harmonic Polynomials, Pacific J. Math. 3, 585-603, 1953.

17. Extremal Methods in Cavitational Flow, J. Rational Mech. Anal. 1, 359-409, 1952 (with D. Spencer).

18. A Remark on Cavitational Flow, Proc. Natl. Acad. of Sci. USA 38, 57-61, 1952 (with H. Royden).

19. Axially Symmetric Cavitational Flow, Ann. of Math. 56, 560-602, 1952 (with H. Lewy and M. Schiffer).

20. On Free-Surface Flows, Proc. of Symposia in Applied Mathematics, Vol. V, Wave Motion and Vibration Theory, McGraw-Hill, New York, 29-39, 1954.

21. Variational Problems in the Theory of Elliptic Partial Differential Equations, J. Rational Mech. Anal. 2, 137-171, 1953 (with M. Schiffer).

22. Oblique Water Entry of a Wedge, Comm. Pure Appl. Math. 6, 157-165, 1953.

23. An Example of Axially Symmetric Flow with a Free Surface, Studies in Mathematics and Mechanics Presented to Richard von Mises, Academic Press, New York, 149-159, 1954.

24. The One-Quarter Theorem for Mean Univalent Functions, Ann. of Math. 59, 316-324, 1954 (with H. Royden).

25. Convexity of Domain Functionals, J. Anal. Math. 2, 281-368, 1953 (with M. Schiffer).

26. On Solution of Partial Differential Equations by the Hahn-Banach Theorem, Trans. Amer. Math. Soc. 76, 288-299, 1954 (with M. Shiffman).

27. On a Double Integral Variational Problem, Canadian J. Math. 6, 441-446, 1954 (with M. Schiffer).

28. On Estimation of Electrostatic Capacity, Proc. Amer. Math. Soc. 5, 206-211, 1954 (with M. Schiffer).

29. Recent Advances at Stanford in the Application of Conformal Mapping to Hydrodynamics, Proc. of the Symposium on Special Topics in Applied Mathematics, Northwestern University, 1953, Amer. Math. Monthly 61 (7), Part II, 8-10, 1954 (with E. McLeod and M. Vitousek).

30. Applications of Analytic Continuation to the Solution of Boundary Value Problems, J. Rational Mech. Anal. 3, 383-393, 1954.

31. An Integral Equation Governing Electromagnetic Waves, Quart. Appl. Math. 12, 428-433, 1955.

32. A Coefficient Inequality for Schlicht Functions, Ann. of Math. 61, 116-136, 1955 (with M. Schiffer).

33. A Proof of the Bieberbach Conjecture for the Fourth Coefficient, J. Rat. Mech. Anal. 4, 427-465, 1955 (with M. Schiffer).

34. Calculation of Axially Symmetric Cavities and Jets, Pacific J. Math. 6, 611-684, 1956.

35. The Mathematical Theory of Three-Dimensional Cavities and Jets, Bull. Amer. Math. Soc. 62, 219-235, 1956.

36. Estimation of the Relaxation Factor for Small Mesh Size, Math. Tables Aids Comput. 10, 183-185, 1956.

37. Numerical Construction of Detached Shock Waves, J. Math. Phys. 36, 192-205, 1957.

38. On Steady-State Bubbles Generated by Taylor Instability, Proc. Roy. Soc. London, Ser. A. 241, 423-431, 1957.

39. On the Numerical Calculation of Detached Bow Shock Waves in Hypersonic Flow, J. Aero. Sci. 25, 109-118, 1958 (with M. Lieberstein).

40. Applicazione al Flusso Supersonico del Problema di Cauchy per un'Equazione Ellittica, Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Nat. (8) 24, 282-286, 1958.

41. Partial Differential Equations with More than Two Independent Variables in the Complex Domain, J. Math. Mech. 9, 241-271, 1960.

42. Applications of the Theory of Partial Differential Equations to Problems of Fluid Mechanics, Modern Mathematics for the Engineer: Second Series, ed. by E. Beckenbach, McGraw-Hill, New York, 347-372, 1961.

43. Numerical Estimates of Contraction and Drag Coefficients, Boundary Problems in Differential Equations, ed. by R. Langer, University of Wisconsin Press, Madison, 11-18, 1960.

44. Partial Differential Equations, Wiley, New York, xii + 672 pp., 1964.

45. Stability of Cauchy's Problem in Space for Analytic Systems of Arbitrary Type, J. Math. Mech. 9, 905-914, 1960.

46. Analyticity and Reflection for Plane Elliptic Systems, Comm. Pure Appl. Math. 14, 315-322, 1961.

47. Proof of Uniqueness by Symmetrization, Studies in Mathematical Analysis and Related Topics, ed. by D. Gilbarg et al., Stanford Univ. Press, Stanford, 126-127, 1962.

48. Transonic Flow Behind a Detached Shock Wave, Intl. Union of Theoretical and Applied Mechanics, Symposium Transonicum, Aachen, September 3-7, 1962, ed. by Klaus Oswatitsch, Berlin, Springer, 110-111, 1964.

49. Flow around a Bubble Rising in a Tube, Cavitation in Real Liquids, ed. by R. Davies, Elsevier, Amsterdam, 30-33, 1964.

50. Lectures on Function Theory and Partial Differential Equations, Rice University Studies 49, 1-12, 1963.

51. General Solutions in the Complex Domain as an Answer to Problems of Mechanics, Vol. 2, Intl. Symp. on Applications and the Theory of Functions in Continuum Mechanics, Tbilisi, 1963, Proceedings, Moscow, 7-12, 1965.

52. Surface Waves of Finite Depth, J. Anal. Math. 14, 161-169, 1965.

53. Asymptotic Description of a Free Boundary at the Point of Separation, Proc. Symposia in Appl. Math. 17, Appls. of Nonlinear Partial Differential Equations in Mathematical Physics, American Math. Society, Providence, 111-117, 1964.

54. On the Shape of Electrified Droplets, Comm. Pure Appl. Math. 18, 31-34, 1965.

55. On the Bieberbach Conjecture for Even N, J. Math Mech. 14, 975-989, 1965 (with G. Ross and M. Schiffer).

56. Inequalities for the Fifth Coefficient, Comm. Pure Appl. Math. 19, 199-214, 1966.

57. Free Boundary Flows of a Viscous Liquid, Comm. Pure Appl. Math. 19, 421-434, 1966.

58. An Extension of Grunsky's Inequalities Bearing on the Bieberbach Conjecture, J. Anal. Math. 18, 81-97, 1967.

59. Computer Experiments with the Bieberbach Conjecture, Proc. Intl. Congress of Math., Moscow, 627-628,1966, Moscow, IZD, "MIR", 1968.

60. The Local Maximum Theorem for the Coefficients of Univalent Functions, Archive Rational Mech. Anal. 26, 1-32, 1967 (with M. Schiffer).

61. Global Structure of Solutions of the Inverse Detached Shock Problem, Problems of Hydrodynamics and Continuum Mechanics, SIAM, Philadelphia, 318-322, 1969.

62. Analytic Methods for the Numerical Computation of Fluid Flows, Analytic Methods in Mathematical Physics, ed. by R. Gilbert and R. Newton, Gordon and Breach, 169-184, 1970.

63. Remarks about Local Maxima of the Coefficients of Univalent Functions, J. Anal. Math. 23, 133-138, 1970 (with E. Swenson).

64. A Method of Canonical Coordinates for Flow Computations, Comm. Pure Appl. Math. 23, 313-327, 1970.

65. An Unsolvable Equation, Proc. Amer. Math. Soc. 25, 207-208, 1970.

66. Numerical Design of Transonic Airfoils, Numerical Solution of Partial Differential Equations - II, ed. by B. Hubbard, Academic Press, 253-269, 1971 (with D. Korn).

67. Numerical Design of Shockless Transonic Airfoils, Actes du Congres International des Mathematiciens 3, 95-97, 1971 (with D. Korn).

68. Analysis of Transonic Airfoils, Comm. Pure Appl. Math. 24, 841-851, 1971 (with D. Korn).

69. Calculation of Riabouchinsky Cavity Flows, Proceedings of the IUTAM Symposium on Non-steady Flow of Water at High Speeds, ed. by L. Sedov and G. Stepanov, Nauka Publishing House, Moscow, 197-199, 1973.

70. Analysis of the Flow Past a Shockless Lifting Airfoil in Design and Off-Design Conditions, NRC of Canada Aeronautical Report LR-554, Ottawa, 1971 (with J. Kacprzynski, L. Ohman and D. Korn).

71. A Theory of Supercritical Wing Sections, with Computer Programs and Examples, Lecture Notes in Economics and Mathematical Systems 66, Springer-Verlag, 1972 (with F. Bauer and D. Korn).

72. Survey of Some Recent Progress in Transonic Aerodynamics, Contributions to Analysis, ed. by L. Ahlfors, I. Kra, B. Maskit and L. Nirenberg, Academic Press, New York, 151-158, 1974.

73. Computer Simulation of Shock Wave Boundary Layer Interaction, Comm. Pure Appl. Math. 26, 659-665, 1973 (with F. Bauer).

74. On the Design of Airfoils Having No Boundary Layer Separation, Advances in Mathematics 15, 164-168, 1975.

75. Supercritical Wing Sections II, Lecture Notes in Economics and Mathematical Systems 108, Springer-Verlag, 1975 (with F. Bauer, D. Korn and A. Jameson).

76. The Existence of Green's Function Revisited, Rend. Mat. 8, 27-30, 1975.

77. Computer Simulation of the Toroidal Equilibrium and Stability of a Plasma in Three Dimensions, Proc. Nat. Acad. Sci. U.S.A. 72, 926-927, 1975 (with O. Betancourt).

78. Computational Transonics, Aerodynamic Analyses Requiring Advanced Computers, NASA SP 347, Part II, 1269-1280, 1975.

79. Computation of Wave Drag for Transonic Flow, J. Anal. Math. 30, 164-171, 1976.

80. Equilibrium and Stability Code for a Diffuse Plasma, Proc. Nat. Acad. Sci. U.S.A. 73, 984-987, 1976 (with O. Betancourt).

81. A Systematic Method for Computer Design of Supercritical Airfoils in Cascade, Comm. Pure Appl. Math. 29, 369-382, 1976 (with D. Korn).

82. Univalent Functions and the Riemann Mapping Theorem, Proc. Amer. Math. Soc. 61, 242-244, 1976.

83. Wing, Supercritical, McGraw-Hill Yearbook of Science and Technology 1977, McGraw-Hill, New York, 422-423, 1977.

84. Transonic Flow over Wing-Body Combinations, Complex Analysis and Its Applications, Academy of Science, USSR, 149-150, 1978.

85. A Method of Computational Magnetohydrodynamics Defining Stable Scyllac Equilibria, Proc. Nat. Acad. of Sci. U.S.A. 74, 393-397, 1977 (with O. Betancourt).

86. Supercritical Wing Sections III, Lecture Notes in Economics and Mathematical Systems 150, Springer-Verlag, 1977 (with F. Bauer and D. Korn).

87. A Computational Method in Plasma Physics, Springer Series in Computational Physics, Springer-Verlag, New York, 1978 (with F. Bauer and O. Betancourt).

88. Transonic Flow Theory of Airfoils and Wings, Advances in Engineering Science, NASA CP 2001, 4, 1349-1358, 1976.

89. Stabilizing Effects of $\ell = 2, 3$ Helical Fields on High-Beta Stellarator Configurations, Proc. 7th IAEA Conference on Plasma Physics and Controlled Nuclear Fusion 2, 355-362, 1978 (with O. Betancourt and F. Herrnegger).

90. Numerical Studies of New Stellarator Concepts, J. Comp. Phys. 35, 341-355, 1980 (with F. Bauer and O. Betancourt).

91. Shockless Airfoils for Wings, Compressors and Turbines, Nonlinear Partial Differential Equations in Engineering and Applied Science, ed. by R. Sternberg, A. Kalinowski and J. Papadakis, Marcel Dekker, 139-149, 1980.

92. Magnetic Flux Surfaces in a Stellarator Field, J. Anal. Math. 36, 44-49, 1979.

93. Nonlinear Magnetohydrodynamic Stability, Phys. Fluids, 24, 48-54, 1981 (with F. Bauer and O. Betancourt).

94. Design of Supercritical Swept Wings, AIAA Journal 20, 289-291, 1982 (with G. McFadden).

95. Beta Limits for Torsatrons, Proc. Nat. Acad. Sci. U.S.A. 78, 1-3, 1981 (with F. Bauer, O. Betancourt and J. Shohet).

96. Recent Progress in Torsatron/Stellarator Research in the U.S.A., Plasma Physics and Controlled Nuclear Fusion Research 1980, Nuclear Fusion Suppl. 1, 793-805, 1981 (with D. Anderson, F. Bauer, O. Betancourt, J. Shohet et al.).

97. Finite β Stellarators, IEEE Transactions on Plasma Science PS-9, 239-243, 1981 (with F. Bauer, O. Betancourt and J. Shohet).

98. Numerical Analysis of Equilibria with Islands in Magnetohydrodynamics, Comm. Pure Appl. Math. 35, 365-378, 1982 (with O. Betancourt).

99. Computational Fluid Dynamics of Airfoils and Wings, Proc. Symp. Conducted by the Mathematics Research Center at the University of Wisconsin-Madison, May 13-15, 1981, Transonic, Shock and Multidimensional Flows: Advances in Scientific Computing, Academic Press, New York, 1-15, 1982 (with G. McFadden).

100. Transonic Airfoil Codes, Advanced Technology Airfoil Research, NASA CP 2045, 1, 45-54, 1978.

101. The NYU Inverse Swept Wing Code, NASA CR 3662, 1-96, 1983 (with F. Bauer and G. McFadden).

102. Nonparametric Solution of the Euler Equations for Steady Flow, Comm. Pure Appl. Math. 36, 529-535, 1983.

103. Magnetohydrodynamic Equilibrium and Stability of Stellarators, Springer-Verlag, New York, 1984 (with F. Bauer and O. Betancourt).

104. The Method of Complex Characteristics for Transonic Airfoil Design, with an Application to Compressors, Advances in Computational Transonics 4, ed. by W. G. Habashi, Pineridge Press, Swansea, 111-129, 1985 (with M. Bledsoe).

105. Confinement and Transport in Stellarators, Phys. Fluids 28, 912-919, 1985 (with O. Betancourt).

106. On the Boundary Values of Harmonic Functions, Revista Matematica Iberoamericana 1, 33-37, 1985.

107. A Remark about Pointed Bubbles, Comm. Pure Appl. Math. 38, 609-612, 1985.

108. Problems in Mathematical Physics Connected with the Bieberbach Conjecture, Mathematical Surveys and Monographs, Amer. Math. Soc., 79-83, 1985.

109. Aspects of Supercritical Wing Theory, Appl. Numer. Math. 3, 49-57, 1987.

110. Monte Carlo Calculation of Transport for Three-Dimensional Magnetohydrodynamic Equilibria, Comm. Pure Appl. Math. 39, 595-621, 1986 (with F. Bauer and O. Betancourt).

111. Differential Equations for the Magnetic Confinement of a Plasma, J. Anal. Math. 46, 158-161, 1986.

112. Confinement and Nonlinear Stability of Stellarator Plasmas, in J. C. Maxwell, the Sesquicentennial Symposium, ed. by M. S. Berger, North-Holland, Amsterdam, 151-163, 1984 (with O. Betancourt).

113. Stability Calculations for the $m = 1/n = 1$ Mode in Heliotron Configurations Using the Three-Dimensional MHD Equilibrium and Stability (BETA) Code, Nuclear Fusion 26, 1359-1370, 1986 (with F. Bauer, O. Betancourt, K. Ichiguchi, and M. Wakatani).

114. Monte Carlo Estimation of the Electric Field in Stellarators, Proc. Natl. Acad. Sci. U.S.A. 83, 7565-7567, 1986 (with F. Bauer, O. Betancourt, and K-C. Ng).

115. A Comment about Schiffer's Differential Equation, Complex Variables 9, 169-174, 1987.

116. The BETA Equilibrium, Stability and Transport Codes: Applications to the Design of Stellarators, Academic Press, Boston, 1987 (with F. Bauer, O. Betancourt, and

M. Wakatani).

117. Transport of Electrons in Bifurcated Tokamak Equilibria, Comm. Pure Appl. Math. 44, 1000-1013, 1991 (with M. Taylor).

118. Design of a Large Helical System for Magnetic Fusion Experiments, Mathematics of Computation 52, 186, 539-543,1989.

119. Nonlinear Saturation of Ballooning Modes in Tokamaks and Stellarators, Proc. Natl. Acad. Sci. U.S.A., 85, 7423-7425, 1988 (with F. Bauer and O. Betancourt).

120. Computational Models in Fusion Research, SIAM Rev. 31, 542-559, 1989.

121. A Simple Proof of a Simple Version of the Riemann Mapping Theorem by Simple Functional Analysis, Amer. Math. Monthly 98, 824-826, 1991.

122. Wave Drag and the Entropy Inequality in Transonic Flow, Computational Fluid Dynamics Techniques, ed. by W. Habashi and M. Hafez, Gordon and Breach, 1-6, 1995 (with F. Bauer and I.-C. Chang).

123. Methods of Magnetohydrodynamics for the Design of Stellarators, Mathematical Approaches in Hydrodynamics, ed. T. Miloh, SIAM, 439-449, 1991 (with F. Bauer).

124. Comparison of Numerical Methods in Transonic Aerodynamics, Computers Fluids 22, 323-326,1993.

125. Tokamak Transport Driven by Quasi-neutrality and Helical Asymmetry, Nuclear Fusion 32, 265-270, 1992 (with M. Taylor).

126. Sobre Soluciones Debiles de la Ecuacion de Burgers, Acta Científica Venezolana 44, 337-340, 1993 (with Margaret Bledsoe).

127. A Unified Theory of Tokamaks and Stellarators, Comm. Pure Appl. Math. 47, 228-292, 1994.

128. Failure of Uniqueness in Transonic Flow, Applied Numerical Mathematics 10, 231-234, 1992.

129. On the Mathematical Theory of Vortex Sheets, Lecture notes in mathematics, 1340. Calculus of Variations and Partial Differential Equations, Proc. of a Conference... Trento, Italy, 1986, 60-69, ed. by S. Hildebrandt, D. Kinderlehrer, M. Miranda, Springer-Verlag (1988).

130. A Stellarator Configuration for Reactor Studies, Nuclear Fusion 34, 881-885, 1994 (with David Anderson).

131. The Method of Complex Characteristics for Transonic Flow, Frontiers of Computational Fluid Dynamics 1994, ed. by D. Caughey and M. Hafez, Wiley, 49-54, 1994.

132. Physics Assessment of Stellarators as Fusion Power Plants, IAEA-CN-60/F-1-I-4, Proc. 15th Internatl. Conference on Plasma Phys. and Controlled Nucl. Fusion Research 1994, IAEA, Vienna 2, 655-662, 1995 (with J. Lyon, J. Rome and D. Anderson).

133. First Experimental Results and Recent MHD Studies for the H-1 Heliac, IAEA-CN-60/A6/C-P4, Proc. 15th Internatl. Conference on Plasma Phys. and Controlled Nucl. Fusion Research 1994, IAEA, Vienna 2, 337-343, 1995 (with B. Blackwell, G. Borg, R. Dewar, H. Gardner, S. Hamberger, J. Howard, S. Rudakov, L. Sharp, M.

Shats, R. Tumlos, G. Warr, B. Zhang, W. Cooper and T. Hayashi).

134. Reduction of Bootstrap Current in the Modular Helias-like Heliac Stellarator, Phys. of Plasmas 2, 2020-2025, 1995 (with H.J. Gardner).

135. Anomalies in Two-Dimensional Transport Theory, Comments on Plasma Physics and Controlled Fusion 16, 215-220, 1995 (with Nelson Kuhl).

136. Solution of Elliptic Equations by the Method of Complex Characteristics, Computational Fluid Dynamics Review 1995, ed. by M. Hafez and K. Oshima, Wiley, 354-356, 1995 (with F. Bauer, M. Bledsoe and C. Chen).

137. A Comment about Runge's Theorem, Nova Journal of Mathematics, Game Theory, and Algebra 6, 211-213, 1997.

138. Optimization of the MHH Stellarator, Comm. Pure Appl. Math. 50, 225-240, 1997.

139. Stellarators with the Magnetic Symmetry of a Tokamak, Phys. of Plasmas 3, 2483-2485, 1996.

140. On the Computation of Stability Limits for Fusion Experiments, Computational Techniques and Applications: CTAC95, ed. by R. May and A. Easton, World Scientific, 327-333, 1996 (with H. Gardner).

141. Recent Progress in the Design of Stellarator Experiments, Phys. of Plasmas 4, 1617-1622, 1997.

142. Proposal for a Modular Stellarator, Plasma Physics Reports 23, 456-459, 1997. (Also in Russian in: Physika Plasmy 23, 491-495, 1997.)

143. Three-Dimensional Tokamak Equilibria and Stellarators with Two-Dimensional Magnetic Symmetry, Plasma Phys. Control. Fusion 39, B129-B134, 1997.

144. Magnetohydrodynamic Stability of Fusion Plasmas, Comm. Pure Appl. Math. 51, 1019-1033, 1998.

145. Toroidally Symmetric Stellarators, J. Plasma Fusion Res. SERIES 1, 148-151, 1998.

146. Design of a Toroidally Symmetric Stellarator, J. Plasma Fusion Res. SERIES 1, 160-163, 1998 (with S. Knowlton, R. Gandy, C. Watts, A. Carnevali, J. Cooney, C. Doloc, J. Hanson, G. Hartwell and Y. Yuan).

147. Quasi-Axially Symmetric Stellarators, Proc. Natl. Acad. Sci. USA 95, 9732-9737, 1998.

148. Complex Analysis of Transonic Flow, Frontiers of Computational Fluid Dynamics 1998, ed. by D. Caughey and M. Hafez, World Scientific, 107-124, 1998 (with C. Chen).

149. Quasiaxially Symmetric Stellarators with Three Field Periods, Phys. of Plasmas 6, 645-648, 1999 (with L.-P. Ku).

150. Configurations for a Proof of Principle Stellarator Experiment, Proc. Natl. Acad. Sci. USA 97, 972-977, 2000.

151. Compact Stellarators with Modular Coils, Proc. Natl. Acad. Sci. USA 97, 8211-8215, 2000.

152. QUATOS: A University-Scale Test of the Quasi-Toroidal Stellarator Concept, Fusion Technology 37, 211-224, 2000 (with C. Watts, R. Gandy, J. Hanson, G. Hartwell, S.

Knowlton and A. Carnevali).

153. Three-Dimensional Codes to Design Stellarators, Phys. of Plasmas 9, 137-149, 2002.

154. Three-Dimensional Stellarator Codes, Proc. Natl. Acad. Sci. USA 99, 10257-10259, 2002.

155. Computational Mathematics and Physics of Fusion Reactors, Proc. Natl. Acad. Sci. USA 100, 13741-13745, 2003.

156. Cavitational Flow and Magnetohydrodynamics, International Journal of Computational Fluid Dynamics 18, 413-420, 2004 (with M.E. Meurer).

157. Reactors with Stellarator Stability and Tokamak Transport, Fusion Sci. and Technol. 47, 400-405, 2005 (with L.-P. Ku).

158. Optimization of Stellarator Reactor Parameters, Fusion Sci. and Technol. 47, 414-421, 2005 (with J.F. Lyon, L.-P. Ku, L. El-Guebaly and L. Bromberg).

159. Bifurcated Equilibria and Magnetic Islands in Tokamaks and Stellarators, Comm. Appl. Math. Comp. Sci. 1, 79-90, 2006.

160. Computational Theory of Magnetic Fusion, with Applications to the ITER Project, International J. of Computational and Appl. Math. 1, 1-7, 2006.

161. New Classes of Quasi-Axisymmetric Stellarator Configurations, Fusion Sci. and Technol. 50, 207-215, 2006 (with L.-P. Ku).

162. Three-Dimensional Equilibria in Axially Symmetric Tokamaks, Proc. Natl. Acad. Sci. USA 103, 19232-19236, 2006.

163. Choice of Coils for a Fusion Reactor, Proc. Natl. Acad. Sci. USA 104, 12250-12252, 2007 (with Romeo Alexander).

164. Physics Design for ARIES-CS, Fusion Sci. and Technol. 54, 673-693, 2008 (with L.-P. Ku, J.F. Lyon, A. Turnbull, A. Grossman, T.K. Mau and M. Zarnstorff).

165. Three-Dimensional Analysis of Tokamaks and Stellarators, Proc. Natl. Acad. Sci. USA 105, 13716-13719, 2008. (Theory of Stellarators and Tokamaks in Three Dimensions, Stellarator News, ORNL, Oct. 2007, http://www.ornl.gov/sci/fed/stelnews .)

166. Design of the DEMO Fusion Reactor Following ITER, J. Research National Institute Standards Technology 114, 229-236, 2009 (with G.B. McFadden);
online at http://www.nist.gov/jres

167. The DEMO Quasisymmetric Stellarator, Energies 3, 000-000, 2010 (with G.B. McFadden);
online at http://www.mdpi.com/journal/energies